

SOUTH PLACER MUNICIPAL UTILITY DISTRICT
JOB DESCRIPTION

ENGINEERING TECHNICIAN I/II

DEPARTMENT: Technical Services

SUPERVISOR: Engineering Manager

POSITION DESCRIPTION

Position of Engineering Technician I/II performs a variety of tasks of sub-professional engineering, office, design assistance and drafting work, including assisting in environmental and civil technical support work; perform engineering support work involving Geographic Information Systems (GIS), computer aided design (CAD), and global position satellite (GPS) systems; assist in plan & map checking, and drafting.

DISTINGUISHING CHARACTERISTICS:

Engineering Technician I is the entry level in the series. The incumbents work under supervision and carry out a variety of assignments requiring application knowledge in GIS and or assisting higher level technicians or professional staff in the conduct of more difficult assignments. Incumbents are expected to demonstrate increased proficiency during this period. As assigned responsibilities and breadth of knowledge increase with increased experience, incumbents may reasonably expect to be promoted to the class of Engineering Technician II.

Engineering Technician II is the journey level in the series. Incumbents perform difficult field or office research and administrative tasks, and perform a variety of complex, technical work involving GIS mapping and CAD design & drafting assignments similar to those often assigned to beginning level professional engineers. Specialty assignments include interpreting and applying engineering principles and techniques to the resolution of problems.

NOTES:

1. The level at which initial appointments are made to the class of Engineering Technician and advancement from Level I to Level II are at the discretion of the General Manager, provided the minimum qualifications are met.

2. Position of Engineering Technician I/II may perform a combination of duties requiring performance of a variety of engineering technician skills such as GIS mapping, AutoCAD drawing, drafting, calculation, basic design, survey, plan review, map review, contract compliance, and administrative support duties.

The following examples of duties focus on primary assignments and illustrate both general duties often associated with most assignments.

Positions in the series are expected to utilize a variety of automated equipment and engineering related standard applications software including GIS mapping, CAD, GPS, data entry, retrieval and manipulation, report generation, and other functions requiring knowledge and skills needed to employ such automated equipment as tools to fulfill job requirements. Allocation at Engineer

Technician II level are associated with assignment to tasks requiring utilization of specialized engineering related software where the computer related duties constitute the primary or essential purpose of the position. Assignment of a position to the Engineer Technician II level is characterized by performance of the most complex and difficult computer duties.

Examples of Duties, Knowledge, and Abilities:

NOTE: The following duties are typical of those performed by employees in this series; however, employees may perform other related duties. Not all duties listed are necessarily performed by each individual in this series.

ENGINEERING TECHNICIAN I

DUTIES:

1. Draw or re-align pipelines appropriately in Arcmap software based on historical information.
2. Read and interpret maps and engineering drawings of sewer facilities.
3. Understand and manipulate digital land base data in Arcmap environment (i.e. GPS points, aerial photos, parcel lines, street centerlines, etc.)
4. Enter and manage data through database front end and through raw tables.
5. Create custom and standard map products for internal and external use.
6. Use Arcmap tools, wizards, and extensions to accomplish objectives.
7. Receives and assists the public, providing information pertinent to the District including research of records, location of sewer lines and easements.
8. Participates as a team member in various group projects and sub-committees.
9. Maintains, updates, and revises a variety of records, files, maps and other resource materials including the compilation of statistics and data for periodic reports and tabulations.

KNOWLEDGE OF:

- GIS concepts and functions;
- Basic knowledge of Arcmap, ArcView, Excel, and Oracle;
- Engineering, drafting, designing, and mathematics techniques;
- Computer-aided drafting;
- Basic knowledge of sewer facilities.

ABILITY TO:

- Prepare analyses and reports utilizing automated equipment and software;
- Follow through and complete assigned engineering support work as directed by higher level staff;
- Work with outside consultants in the operation of the GIS program for the District;
- Continuously improve skills and abilities for promotion to Engineering Technician II;
- Maintain records and prepare reports to maintain control of GIS progress;

- Work at a computer for long periods of time, with extreme attention to detail;
- Learn the GPS used by the District.

ENGINEERING TECHNICIAN II

DUTIES:

1. Originates and revises GIS produced maps and data that illustrate the District's sewer collection system, aboveground facilities, easements, and right-of-way.
2. Gathers data and assembles information about the District's sewer system for GIS applications and other materials for a variety of reports and support documents.
3. Conducts field surveys, using GPS and manual techniques, to determine elevations, locations, and other sewer characteristics for additions and upgrades to the GIS mapping systems.
4. Works with other employees to collect information to analyze existing facilities to determine necessary requirements for additions and upgrades to sewer system.
5. Drafts detailed drawings of sewer structures and installations, topographical profiles, maps and specifications sheets used in planning and construction of District facilities and structures using computer assisted drawing.
6. Calculates and prepares engineering specifications for proposed projects.
7. Reviews subdivision and improvement plans for conformity with District standards, construction specifications, and validates calculations and quantity estimates.
8. Prepares plans, profiles, cross sections, specifications and cost estimates.
9. Prepares charts, graphs and other display materials for a variety of reports support documents.
10. Prepares and reviews maps, right-of-way easements, and property descriptions.

KNOWLEDGE OF:

- Extensive and varied knowledge of GIS applications, including capabilities, limitations, and characteristics;
- Extensive knowledge of GIS computer software;
- Mapping and geo-processing operations of local government;
- The specialized engineering support principles and practices utilizing conventional or computer-aided design and drafting techniques applicable to plans, schematics, sketches, and other materials utilized for the construction of District facilities and structures;
- The principles and practices of sewer design and construction, and District improvement standards as they are applied to map and plan checking for conformance to established requirements and standards, including parcel and subdivision criteria;
- Extensive and varied knowledge of sewer construction principles, practices, methodologies, and techniques;
- Extensive and varied knowledge of contract administration, fee & permit requirements;
- Construction conditions requirements.

ABILITY TO:

- Perform all the duties of the Engineering Technician I with little or no supervision;
- Independently perform specialized assignments requiring extensive knowledge of GIS, GPS, and sub-professional engineering work;
- Represent the District in meetings and conferences with outside consultants, contractors, and other public agencies;
- Work with all departments to accomplish the District's goals.

MINIMUM QUALIFICATIONS:

Any combination of experience and education or training that is likely to provide the required knowledge and abilities for this class. Typical ways to obtain the knowledge and abilities would be:

Engineering Technician I

Three years of sub-professional engineering experience involving GIS and CAD applications and use, preferably with sewer facilities or public works.

Engineering Technician II

Either: 1. Three years of full-time experience in the class of Engineering Technician I at SPMUD

Or: 2. Five years of sub-professional engineering experience involving GIS applications preferably with sewer facilities work, including two years of experience comparable to the Engineering Technician I in SPMUD.

Education Substitution for all classes in this series.

Education Substitution Criteria:

Completion of coursework in engineering or related field at an accredited college or university may be substituted for up to one year of the required experience. Related education substitutions for the required experience are computed on the basis of 3 semester units or 4.5 quarter units = 1 work month.

SPECIAL REQUIREMENTS:

License Requirements:

Positions require a valid California Driver's License, Class C or higher at the time of appointment.

Engineering Technician I

Position requires possession of a C.W.E.A. Grade I certification in Collection Systems within 24 months of hire.

Engineering Technician II

Position requires possession of a C.W.E.A. Grade II certification in Collection Systems.

Note: Failure to maintain the appropriate valid California Driver's License or C.W.E.A. certification constitutes cause for termination from the class in accordance with Civil Service Rule 11.4.

Background Check

Applicants for positions are subject to a criminal history record check in accordance with SPMUD Personnel Policies.

Probationary Period and Class History Information:

Engineering Technician Level II --Six (6) months

Engineering Technician Level I --Six (6) months

Adopted: 09/09/2009